

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B01J8/00 B01J8/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B01J B65G B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 467 513 B1 (YANAGISAWA YUZURU ET AL) 22 October 2002 (2002-10-22) abstract column 4, line 34 - column 5, line 41; figures 7-10	1-5
X	EP 1 283 070 A (TOPSOE HALDOR AS) 12 February 2003 (2003-02-12) abstract column 2, paragraph 11 column 4, paragraph 24 - paragraph 25; figure 2	1-5



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

20 August 2004

Date of mailing of the international search report

02/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Thomasson, P

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/44488 A (PATUREAUX THIERRY ; TOTAL RAFFINAGE DISTRIBUTION (FR)) 3 August 2000 (2000-08-03) abstract page 3, line 27 - line 36 page 4, line 16 - line 19 page 5, line 6 - line 8 page 5, line 27 - line 31 page 5, line 36 - page 6, line 4 page 6, line 16 - line 32; figures 1-8	1-5
A	EP 0 522 858 A (CLEVELAND POTASH LTD) 13 January 1993 (1993-01-13) abstract column 3, line 50 - column 4, line 6	3-5
A	GB 2 330 828 A (E W DOWNS & SON) 5 May 1999 (1999-05-05) abstract	3-5
A	EP 0 548 999 A (NORSK HYDRO TECHNOLOGY) 30 June 1993 (1993-06-30) abstract; figure 2	1-5

Information on patent family members

ational Application No

/US2004/012390

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6467513	B1	22-10-2002	JP 2000237577 A	05-09-2000
EP 1283070	A	12-02-2003	AT 268216 T	15-06-2004
			CA 2396694 A1	07-02-2003
			CN 1404914 A	26-03-2003
			DE 60200576 D1	08-07-2004
			EP 1283070 A2	12-02-2003
			JP 2003126679 A	07-05-2003
			NO 20023706 A	10-02-2003
			US 2003031536 A1	13-02-2003
			ZA 200205437 A	10-06-2003
WO 0044488	A	03-08-2000	FR 2789050 A1	04-08-2000
			AT 243553 T	15-07-2003
			AU 3060300 A	18-08-2000
			DE 60003526 D1	31-07-2003
			DE 60003526 T2	29-04-2004
			EP 1152819 A1	14-11-2001
			WO 0044488 A1	03-08-2000
EP 0522858	A	13-01-1993	DE 69215443 D1	09-01-1997
			DE 69215443 T2	12-06-1997
			DK 522858 T3	07-04-1997
			EP 0522858 A1	13-01-1993
			ES 2096037 T3	01-03-1997
			GB 2258460 A , B	10-02-1993
			GR 3022639 T3	31-05-1997
			US 5289909 A	01-03-1994
GB 2330828	A	05-05-1999	NONE	
EP 0548999	A	30-06-1993	NO 915044 A	21-06-1993
			AT 137713 T	15-05-1996
			CA 2084261 A1	21-06-1993
			DE 69210570 D1	13-06-1996
			DE 69210570 T2	24-10-1996
			EP 0548999 A1	30-06-1993
			RU 2096276 C1	20-11-1997
			US 5247970 A	28-09-1993